# WALLET REVENUE & CUSTOMER ANALYSIS - OUTPUT FILES DOCUMENTATION

**Script Name:** Wallet\_Revenue\_Paid\_Free\_Analysis.R **Purpose:** Analyze wallet transaction data to understand revenue trends, customer payment behavior, conversion patterns, and geographical performance

**Total Files Generated:** 9 files (5 LCO-level + 4 City-level)

## OUTPUT FILES GENERATED

### 1. **Wallet\_LCO\_Monthly\_Wide.csv**

**Purpose:** Month-by-month comparison of all LCOs in a single view

**What it contains:** - Each LCO (Entity Code and Name) as rows - For each month, you will see 5 columns: - **Total Customers:** Count of all active customers - **Paid Customers:** Customers who paid (Amount Debit ≠ 0) - **Free Customers:** Customers who didn’t pay (Amount Debit = 0) - **Total Revenue:** Sum of all payments collected - **ARPU:** Average Revenue Per User (Total Revenue ÷ Total Customers)

**When to use:** - Quick comparison of LCO performance across multiple months - Identify which LCOs are growing or declining in revenue - Spot trends in customer counts month-over-month

### 2. **Wallet\_LCO\_Monthly\_Details.csv**

**Purpose:** Detailed month-wise breakdown for deeper analysis

**What it contains:** - Same metrics as File #1, but in long format - Each row represents one LCO for one month - Columns: Entity Code, Entity Name, Month, Total\_Customers, Paid\_Customers, Free\_Customers, Total\_Revenue, ARPU

**When to use:** - Detailed analysis of specific months - Easier to filter and sort by specific criteria - Better for charts and graphs in Excel/PowerBI

### 3. **Wallet\_Overall\_Monthly\_Summary.csv**

**Purpose:** Company-wide monthly performance summary

**What it contains:** - Overall totals across ALL LCOs combined - One row per month showing: - Total customers across all LCOs - Total paid customers - Total free customers - Total company revenue - Company-wide ARPU

**When to use:** - High-level executive summary - Track overall company performance trends - Understand if revenue decline is company-wide or specific to certain LCOs

### 4. **Wallet\_LCO\_Customer\_Journey\_Summary.csv** ⭐ **KEY FILE**

**Purpose:** Understand customer conversion patterns and revenue sources

**What it contains (for each LCO):**

**Customer Segmentation:** - **Always\_Paid\_Count:** Customers who paid from the beginning and never used free service - **Free\_to\_Paid\_Count:** Customers who started free but later converted to paid - **Always\_Free\_Count:** Customers who enjoyed free service throughout and never paid - **Total\_Customers:** All customers

**Percentage Breakdown:** - **Always\_Paid\_Pct:** What % of customers are loyal paying customers - **Free\_to\_Paid\_Pct:** What % successfully converted from free to paid - **Always\_Free\_Pct:** What % are freeloaders who never paid - **Conversion\_Rate\_Pct:** Success rate of converting free users to paid (Free\_to\_Paid ÷ (Free\_to\_Paid + Always\_Free) × 100)

**Revenue Analysis:** - **Total\_Revenue\_All:** Total revenue from all customers - **Revenue\_from\_Converted:** How much money came from converted customers - **Revenue\_from\_Always\_Paid:** How much money came from loyal paying customers

**When to use:** - **MOST IMPORTANT FILE for understanding why revenue is declining despite new subscribers** - Check if new subscribers are mostly free users who never convert - Identify which LCOs are good at converting free users to paid - Understand if revenue decline is due to too many free customers or low conversion rates

**Key Questions This File Answers:** 1. Are we adding paying customers or just free users? 2. Which LCOs are effective at converting free trials to paid subscriptions? 3. Where is our revenue actually coming from?

### 5. **Wallet\_Overall\_Customer\_Journey\_Summary.csv**

**Purpose:** Company-wide conversion summary

**What it contains:** - Same metrics as File #4, but aggregated across ALL LCOs - Single-row summary showing overall company conversion performance

**When to use:** - Executive summary of conversion effectiveness - Quick answer: “Are we converting free users to paid customers effectively?” - Board presentations and high-level reports

## CITY-LEVEL ANALYSIS FILES

### 6. **Wallet\_City\_Monthly\_Wide.csv**

**Purpose:** Month-by-month comparison of all cities in a single view

**What it contains:** - Each city as rows - For each month, you will see 5 columns: - **Total Customers:** All customers across all LCOs in the city - **Paid Customers:** Customers who paid - **Free Customers:** Customers who didn’t pay - **Total Revenue:** Sum of all payments in the city - **ARPU:** Average Revenue Per User for the city

**When to use:** - Compare city performance across multiple months - Identify which cities are performing well or poorly - Understand geographical revenue distribution

### 7. **Wallet\_City\_Monthly\_Details.csv**

**Purpose:** Detailed city-wise monthly breakdown

**What it contains:** - Each row represents one city for one month - Columns: City, Month, Total\_Customers, Paid\_Customers, Free\_Customers, Total\_Revenue, ARPU, LCO\_Count - Shows number of LCOs operating in each city

**When to use:** - Deep dive into specific city performance - Track how many LCOs are active in each city - Better for creating charts and visualizations

### 8. **Wallet\_City\_Revenue\_Trend\_Analysis.csv** ⭐ **KEY CITY FILE**

**Purpose:** Identify which cities are experiencing revenue growth or decline

**What it contains (for each city):**

**Period Comparison:** - **First\_Month / Last\_Month:** Date range analyzed - **First\_Month\_Revenue / Last\_Month\_Revenue:** Revenue at start and end of period - **First\_Month\_Customers / Last\_Month\_Customers:** Customer count at start and end - **First\_Month\_ARPU / Last\_Month\_ARPU:** ARPU at start and end

**Change Analysis:** - **Revenue\_Change:** Absolute change in revenue (Last - First) - **Revenue\_Change\_Pct:** Percentage change in revenue - **Customer\_Change:** Absolute change in customer count - **Customer\_Change\_Pct:** Percentage change in customers - **ARPU\_Change:** Absolute change in ARPU - **ARPU\_Change\_Pct:** Percentage change in ARPU - **Trend\_Status:** Categorized as “Declining” (<-5%), “Growing” (>5%), or “Stable”

**When to use:** - **CRITICAL for identifying problem cities where revenue is declining** - Understand if customer growth is translating to revenue growth - Identify cities where ARPU is falling despite customer additions - Prioritize cities for management intervention

**Key Questions This File Answers:** 1. Which cities are experiencing revenue decline? 2. Are we adding customers but losing revenue per customer (ARPU decline)? 3. Which cities need immediate attention?

### 9. **Wallet\_City\_Customer\_Journey\_Summary.csv**

**Purpose:** City-level conversion effectiveness analysis

**What it contains (for each city):**

**Customer Segmentation:** - **Always\_Paid\_Count:** Loyal paying customers - **Free\_to\_Paid\_Count:** Successfully converted customers - **Always\_Free\_Count:** Free users who never converted - **Total\_Customers:** All customers

**Performance Metrics:** - **Always\_Paid\_Pct, Free\_to\_Paid\_Pct, Always\_Free\_Pct:** Percentage breakdowns - **Conversion\_Rate\_Pct:** Success rate of converting free to paid - **Total\_Revenue, Revenue\_from\_Converted, Revenue\_from\_Always\_Paid:** Revenue sources

**When to use:** - Understand which cities are better at converting free users - Identify cities with too many free users - Compare conversion strategies across different geographies - Find best practices from high-performing cities

## KEY INSIGHTS TO LOOK FOR

### Understanding Revenue Decline

If **revenue is declining despite adding new subscribers**, check:

**Step 1: Identify Problem Areas Geographically** 1. **File #8 (City Revenue Trend):** - Look for cities with **Trend\_Status = “Declining”** - Check **Revenue\_Change\_Pct** - negative values indicate revenue loss - Check **ARPU\_Change\_Pct** - negative values mean you’re earning less per customer - **Key finding:** If customers are growing but revenue is falling, it’s an ARPU problem

**Step 2: Understand Customer Quality Issues** 2. **File #4 (LCO Customer Journey):** - Is **Always\_Free\_Count** increasing more than **Always\_Paid\_Count**? - Is **Conversion\_Rate\_Pct** low (below 20-30%)? - This means: New subscribers are free users who aren’t converting

1. **File #9 (City Customer Journey):**
   * Which cities have the highest **Always\_Free\_Pct**?
   * Which cities have low **Conversion\_Rate\_Pct**?
   * This identifies cities with poor conversion strategies

**Step 3: Validate with Monthly Trends** 4. **File #1 or #2 (Monthly Data):** - Is **Free\_Customers** count growing while **Paid\_Customers** is flat or declining? - Is **ARPU** decreasing over time? - This means: Customer base quality is deteriorating

1. **File #3 (Overall Summary):**
   * Compare early months vs recent months
   * If Total\_Customers grew but Total\_Revenue didn’t grow proportionally, it confirms the free user problem

### Actionable Decisions

**Good LCO/City Performance Indicators:** - High Conversion\_Rate\_Pct (>30%) - Revenue\_from\_Converted is significant - ARPU is stable or increasing - Trend\_Status = “Growing” or “Stable” - Revenue\_Change\_Pct is positive

**Poor LCO/City Performance Indicators:** - High Always\_Free\_Count with low Free\_to\_Paid\_Count - Low Conversion\_Rate\_Pct (<15%) - Decreasing ARPU over time - Trend\_Status = “Declining” - Negative Revenue\_Change\_Pct despite positive Customer\_Change\_Pct

**Actions to Take:**

**For Cities with Declining Revenue (File #8):** - Investigate why ARPU is falling (too many free users? pricing issues?) - Review LCO performance within that city - Consider city-specific promotional campaigns or pricing adjustments

**For Cities/LCOs with Poor Conversion (Files #4 & #9):** - Implement stricter free trial policies - Sales team intervention for free user conversion - Study successful cities/LCOs and replicate their strategies

**For Overall Strategy:** - Focus new customer acquisition in high-performing cities - Consider exiting or restructuring operations in consistently declining cities - Benchmark best-performing cities and apply learnings across the network

## TECHNICAL NOTES

* **City Data Integration:** City information is automatically loaded from LCO Master Report and matched with wallet data by Entity Code
* **Valid Base Plans Only:** Analysis includes only customers with valid base plans from the master list (ALL\_PLAN\_NAMES\_NEWOLD\_august25.csv)
* **Date Range:** Script automatically detects and analyzes all months present in the data file
* **Paid vs Free:** Determined by Amount Debit column (0 = Free, >0 = Paid)
* **ARPU Calculation:** Total Revenue ÷ Total Customers (includes both paid and free)
* **Conversion Rate:** Percentage of free users who eventually became paid customers
* **Trend Status:** Cities are categorized as “Declining” if revenue change < -5%, “Growing” if > 5%, otherwise “Stable”
* **LCO Master Report:** Located at C:\Users\shant\Downloads\MQ report download\16279489\_LCOMasterReport.CSV

## FILE ORGANIZATION SUMMARY

**Quick Reference Guide:**

**For Executive Review:** - Start with File #8 (City Revenue Trend) - identifies problem cities - Then review File #3 (Overall Monthly Summary) - company-wide trends - Finally check File #5 (Overall Customer Journey) - conversion effectiveness

**For Detailed Analysis:** - Files #1, #2, #6, #7 - Month-by-month detailed breakdowns - Files #4, #9 - Customer journey and conversion analysis by LCO/City

**For Strategic Planning:** - File #8 - Geographical prioritization (which cities to focus on) - Files #4, #9 - Conversion optimization opportunities - Files #6, #7 - City-level resource allocation decisions

**For Questions or Issues:** Contact Data Analytics Team